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ABSTRACT

The effect of television on the performance of 20 learning disabled children (6-10 years old) was investigated. Television was employed as a means of presenting a formal diagnostic measure (the Visual Sequential Memory Subtest of the Illinois Test of Psycholinguistic Abilities). The subtest was administered via videotape by a fictional character designed to reduce test anxiety and increase attention on task. A two-way analysis of variance indicated that Ss performed significantly better when administered the subtest via the television format than via the typical testing format. Ss taking the subtest through the typical testing format showed behaviors suggesting less attention on task than Ss taking the subtest through the television format. (CL)

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# Televisional Diagnosis: Futurism in Psychometrics

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The role of diagnosis in the educational process for the learning disabled child is well substantiated in literature (Lerner, 1976; Wallace and McLoughlin, 1979). The critical role that diagnosis/assessment assumes in the "overall" approach to remediation has come under a great deal of scrutiny (Wallace and Larsen, 1978). The diagnostic/assessment process has drawn sharp criticism in a number of areas ranging from overall diagnostic procedures to the diagnostic instruments tnemselves (Ebel, 1975; Anastasi, 1976). Researchers question whether the typical formal testing situation (in which the child is removed from the context of his environment and placed in a rather austere testing room with a strange diagnostician resulting often times as an unsettling experience for the child) is conducive to optimum (or even normal) performance on the soon to be administered diagnostic instrument (Sarason et. al., 1960; Lawrence, 1962; Hill and Sarason, 1966; Jacobs, 1979; Nottelmann, 1975; Anastasi, 1968). Doubts have been raised as to whether this process is motivating for certain groups of children (Anastasi, 1968; Anastasi, 1958; Eells et. al., 1951). The degree of motivation on a particular task may affect the level of attention the child will attach to such task (Kahneman, 1973; Wilson et. al., 1975; Davies and Jones, 1975; Smock et. al, 1961). If the diagnostic process/instrument is unsettling and lacks a high degree of import (motivation) for certain groups of children, one may expect

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a decreased level of concentration on the task presented and consequently the child's level of performance may be significantly lower than his ability level (Kahneman, 1973; Smock, 1961; Ash and Sattler, 1973; Keeves, 1974; Zentall et. al., 1977; Davies and Jones, 1975). If this circumstance does indeed exist-a logical question one might raise is, "How does one increase motivation and therefore attention and performance on the diagnostic task?"

Television, as a medium, has been the subject of much concern. Researchers have documented the powerful affect that television can have on children; unfortunately much of this data posits negative associative factors (Feshbach and Singer, 1971; Bandura et. al., 1963; Hicks, 1965; Lovaas, 1961; Liebert and Baron, 1972; Leifer and Roberts, 1972; McIntyre and Trevan, 1972; Steuer et. al., 1971; Lievert et. al., 1973). Television, however, possesses the potential to be a positive influence on children as evidenced by studies on prosocial behavior (Bryan and Walbeck, 1970; Stein and Bryan, 1972; Wolf, 1972; Bandura and Menlow, 1968; O'Connor, 1972. Ball and Bogatz, 1970; Liebert et. al., 1973). Research implies that television may possess the potential to play a significant role in the educational diagnostic process. This role may be a positive one, in that television may be an avenue of diagnosis with particular motivational appeal for many children. If indeed this medium is particularly motivating for children, television should be explored as a potential format for increasing attention on task and consequently providing a truer indice of performance. Television may ultimately prove to be a means of reducing a significant source of "error of measurement" with its potential for overcoming attentional/motivational/anxiety based problems in learning disabled children in specific and the overall population of children in general. This research project documents an attempt to measure the affect of television (on performance) when employed as an integral component in the diagnostic process. In this research project, television was employed as a means of

presenting a formal diagnostic measure. Because of its adaptability to a televisional format the Visual Sequential Memory Subtest of the Illinois Test of Psycholinguistic Abilities (Kirk, McCarthy, and Kirk, 1968) was utilized. This subtest was administered (via videotape) by a fictional character designed to appeal to children age 5-10 years. The intent was that this fictional character would put children at ease (reduce test anxiety) and also commit children to trying their "very best" (increase attention on task). It was hypothesized that subjects would perform significantly better in the "televisional" format than in the regular testing format. In effect, the television played the role of a surrogate diagnostician. A group of learning disabled children were chosen for this study. Learning disabled children were specifically employed in this study because this population has traditionaliy been characterized as children of normal intelligence and who often show such attentional or attentional related deficits as distractibility, perseveration, hyperactivity, hypoactivity, lack of motivation, impulsivity etc. (Bryan and Bryan, 1978; Gearheart and Weishahn, 1976; Lerner, 1976; Dykman et. al., 1970, 1971).

Experimental Methodology

1. Subjects - The subjects for this study were 20 children, age 6-10 years, who were enrolled in a summer program for learning disabled children. All children were public school students in and around Hays, Kansas (population approximately 12,000). Subjects included 13 males and seven females. Data collected from parents indicated that subjects of both the control and experimental groups spent approximately 2-3 hours per day (mean) watching television. Experimental group subjects mean age was 91.4 months; control group subjects mean age was 93.6 months.

2. Setting - This study was conducted in an elementary school setting in Hays, Kansas. Subjects were tested in a room within the elementary school that was typically used during the regular school year as the "diagnostic room".

3. Instrumentation - The dependent measure employed in this investigation was the Visual Sequential Memory Subtest of the Illinois Test of Psycholinguistic Abilities. This subtest measures the child's "ability to reproduce from memory sequences of visually received stimuli" (Examiner's Manual-Kirk, McCarthy, and Kirk, 1968). As a test of short-term visual memory, a great deal of concentration is required for optimum performance. The test is comprised of 25 sequences of discrete, nonmeaningful, abstract figures varying in length from two-eight figures. The child is shown each sequence for five seconds and then asked to put chips of corresponding figures in in the same order.

A videotape presentation of the Visual Sequential Memory Subtest was developed for utilization in this study. The videotape displayed a "cowardly lion" type fictional character (referred to as the "game lion") introducing the subtest to the child. The "game lion" told the child that he was "looking for someone to play a game with" and asked the child, "Will you play a game with me?" The "game lion" also asks the child to promise that he will "try his very best." After the child commits himself to trying his very best the "game lion" explains the "game" (Visual Sequential Memory Subtest) they will play together. Once the "game" starts, the "game lion" is not pictured so the child can devote complete concentration on the abstract figures which the "game lion" presents to the child by holding them in his paws. (Note: The videotape focuses on the figures, the "game lion" is no longer visible to the child,

his connection to the figures is implied by his voice which prepares the child to view each separate set of figures as the test progresses). When the test is completed, the "game lion" thanks the child for playing with him and tells the child that he hopes he will see him again. (Note: An examiner is present in the "diagnostic room" to manipulate the videotape and record responses).

4. Procedure - Subjects were randomly divided into an experimental and a control group. Subjects did not know they were participating in a research project nor did they know which group they were in.

Phase 1-Control group subjects were administered the Visual Sequential Memory Subtest of the ITPA in the typical testing format. The children were taken to the "diagnostic room" one at a time and administered the subtest by a trained diagnostician. After administration of the test, subjects returned to their classroom. Experimental group subjects were taken one at a time to the "diagnostic room". They were administered the "televisional" format. An examiner was utilized in the experimental format to run the videotape machine and to record subject responses. After administration of the test, subjects returned to their classroom.

Phase 2-After a time duration of four weeks subjects were readministered the Visual Sequential Memory Subtest. Precedures were identical to Phase 1 with the exception of having the control group taking the test through the televisional format and the experimental group taking the test through the regular format. Carry-over effects were assumed to be negligible.

5. Results - A two-way analysis of variance was employed to analyze the data. Program B.M.D. (Dixon, 1973) was utilized to verify the results. Results indicated that subjects in both groups performed significantly better when administered the Visual Sequential Memory Subtest via the "televisional" format (see table 1., table 2., and figure 1). Non-significant results were obtained for the phase and interaction effects. In both measures, subjects taking the subtest through the typical testing format showed behaviors suggesting less attention on task than subjects taking the subtest through the "televisional" format. Indices of attention were measured through eye contact as well as frequency of stereotyped behaviors (Baumeister and Forehand, 1973).

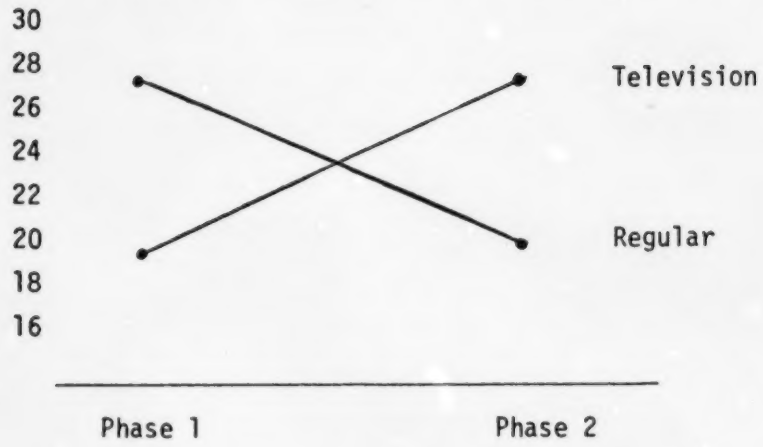
SUMMARY OF TWO-WAY ANALYSIS OF VARIANCE

| SOURCE | SUMS OF SQUARES | df | MEAN SQUARE | F | SIGNIFICANCE |
|---|---|---|---|---|---|
| Regular vs. T.V. format | 521.36 | 1 | 521.36 | 17.04 | .01 |
| Phase | 6.25 | 1 | 6.25 | .20 | NS |
| Interaction | 2.25 | 1 | 2.25 | .07 | NS |
| Within Cells | 979.14 | 32 | 30.60 | | |
| TOTAL | 1506.75 | 35 | | | |

TABLE 2

| | Experimental (means) | Control (means) |
|---|---|---|
| Age | 91.4 mos. | 93.6 mos. |
| Raw Score | T.V. 27.55<br>Reg. 19.44 | T.V. 26.22<br>Reg. 19.11 |
| PLA norms | T.V. → 10.5<br>Reg. 6.1 | T.V. → 10.5<br>Reg. 6.1 |
| Scale Score norms | T.V. 51<br>Reg. 35 | T.V. 46<br>Reg. 34 |

FIGURE 1



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